



Prevalence of Occupational noise exposure and High Blood Pressure Among Workers in the UAE

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Abstract Structure

Background: Noise is one of the important occupational hazards worldwide, and hypertension is a risk factor that could end with cardiovascular diseases, which is considered as one of the greatest reasons for disability retirement worldwide. The study aimed to determine the prevalence of high blood pressure and its association between noise exposure and other factors among workers who are exposed to different levels of noise pollution.

Materials and Methods: The study followed a cross-sectional design. A validated self-administered questionnaire was used for data collection, along with blood pressure and blood sugar measurement. Data were collected from a crusher in Fujairah, UAE. Ethical approval was obtained prior to the study. Data were analyzed using SPSS 27. Chi square test was used to find association and Binomial and Multiple logistic regression was used to determine the factors.

Results: The prevalence of grade 1 & 2 hypertension among the workers was 59.8%, while 40% of the workers work in an environment beyond 90 dB of noise level. The participants above age 50 years (OR=4.2, C.I.: 1.37-12.94), Asian nationality (OR= 5.71, C.I.: 1.9-16.8), obese (OR=2.3, C.I.: 1.08-5.2), and noise level above 90 dB (OR=2.2, C.I.: 1.03-5.01) were found be more likely to be at risk of grade 1 & 2 hypertension.

Conclusion: The study concluded that the prevalence of hypertension among the workers was 59.8% and those who were exposed to noise level more than 95 dB was 40%. The noise level was found to be a significant risk factor for high hypertension. The other factors which are found to be the significant risk factors are age group, nationality, and BMI. Annual

hearing check-up to evaluate the condition of the workers annually. Steps to reduce workplace noise levels and to improve workplace-based health are thus urgently needed.

Keywords: occupational noise, hypertension, crushers, noise level